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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,638	03/31/2006	**Italo Carfagnini**	58009-021400	1734

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EXAMINER	
KRYLOVA, IRINA	
ART UNIT	**PAPER NUMBER**
1796	

NOTIFICATION DATE	DELIVERY MODE
07/13/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/574,638	CARFAGNINI, ITALO	
	Examiner	Art Unit	
	Irina Krylova	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-4 and 6-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-4, 6-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed by Applicant on May 12, 2010 has been fully considered. The amendment to claims 2-4, 6-19 are acknowledged. Specifically, claims 15 and 19 were amended to include limitation of plasto-elastomeric composition being recyclable and nontoxic and does not produce chlorine or dust or contain heavy metals. This limitation was not previously presented and was taken from instant specification (see p. 7, lines 12-15). In light of the amendment filed by Applicant on May 12, 2010, all claim objections are withdrawn. All previous prior art rejections are maintained. The following action is made final.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 2-4, 6-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Carfagnini** (EP 230,212) in view of **Credali** (WO 2004/026957) and **Yamanaka** (US 2003/0013820).

3. The rejection is adequately set forth on pages 3-8 of an Office Action mailed on February 17, 2010 and is incorporated here by reference.

4. With respect to newly added limitation of the plasto-elastomeric composition being recyclable and nontoxic and not producing chlorine or dust or heavy metals, since the composition of **Carfagnini** in view of **Credali** and **Yamanaka** and method for its production are identical to those claimed in the instant invention, therefore, the composition of **Carfagnini** in view of **Credali** and **Yamanaka** will intrinsically have such properties as recyclability and nontoxicity. "Products of identical chemical composition can not have mutually exclusive properties" (See MPEP 2112.01). Furthermore, since the composition of **Carfagnini** in view of **Credali** and **Yamanaka** specifically recites the use of non-halogenated phenolic resin as a cross-linking agent, therefore, it would have been obvious to a skilled artisan that chlorine will not be produced since the composition does not contain chlorine derivatives at all. Further, the composition does not comprise compounds containing heavy metals, therefore, heavy metals will not be produced as well.

5. Claims 8, 10, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Carfagnini** (EP 230,212) in view of **Credali** (WO 2004/026957), **Yamanaka** (US 2003/0013820) in further view of "Hawley's Condensed Chemical Dictionary", 14th Edition, 2002, by John Wiley & Sons Inc.

6. The rejection is adequately set forth on pages 9-10 of an Office Action mailed on February 17, 2010 and is incorporated here by reference.

7. Claims 2-4, 6-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Carfagnini** (EP 230,212) in view of **Credali** (WO 2004/026957) and **Sullivan et al** (US 2004/0209707).

8. The rejection is adequately set forth on pages 10-15 of an Office Action mailed on February 17, 2010 and is incorporated here by reference.

9. With respect to newly added limitation of the plasto-elastomeric composition being recyclable and nontoxic and not producing chlorine or dust or heavy metals, since the composition of **Carfagnini** in view of **Credali** and **Sullivan et al** and method for its production are identical to those claimed in the instant invention, therefore, the composition of **Carfagnini** in view of **Credali** and **Sullivan et al** will intrinsically have such properties as recyclability and nontoxicity. "Products of identical chemical composition can not have mutually exclusive properties" (See MPEP 2112.01). Furthermore, since the composition of **Carfagnini** in view of **Credali** and **Sullivan et al** specifically recites the use of non-halogenated phenolic resin as a cross-linking agent, therefore, it would have been obvious to a skilled artisan that chlorine will not be produced since the composition does not contain chlorine derivatives at all. Further, the

composition does not comprise compounds containing heavy metals, therefore, heavy metals will not be produced as well.

10. Claims 10, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Carfagnini** (EP 230,212) in view of **Credali** (WO 2004/026957) and **Sullivan et al** (US 2004/0209707), in further view of "Hawley's Condensed Chemical Dictionary", 14th Edition, 2002, by John Wiley & Sons Inc.

11. The rejection is adequately set forth on pages 15-17 of an Office Action mailed on February 17, 2010 and is incorporated here by reference.

Response to Arguments

12. Applicant's arguments filed on May 12, 2010 have been fully considered.

13. Regarding the rejection of claims 2-4, 6-19 under 35 U.S.C. 103(a) as being unpatentable over **Carfagnini** (EP 230,212) in view of **Credali** (WO 2004/026957) and **Yamanaka** (US 2003/0013820), Applicant argues that:

a) **Credali** and **Yamanaka** do not disclose EPDM-polyolefin copolymer made by cross-linking EPDM and polyolefins but rather disclose highly filled soft polyolefin composition, as in **Credali,** or EPDM polymers (cross-linked polymer containing ethylene-propylene rubber, polyethylene), as in **Yamanaka** with a specific gravity; **Carfagnini** discloses a

laundry list of additives but discloses nothing regarding the types, conditions and feasibility of adding an inorganic filler to EPDM-polyolefin copolymer;

b) EPDM-polyolefins and polyolefins are different compounds;

c) the cited references do not teach recyclable and nontoxic plasto-elastomeric composition that does not produce chlorine or dust or contain heavy metals;

d) there is no reason to combine the cited references;

e) the process of cross-linking EPDM terpolymer with polyolefin is known to be unpredictable.

14. Examiner disagrees.

1) It is noted that instant invention discloses a plasto-elastomeric composition comprising EPDM elastomeric phase and polyolefin plastic phase, wherein the EPDM elastomeric phase is cross-linked by a combination of non-halogenated alkylphenol-formaldehyde and salicylic acid cross-linking agents, and not cross-linked with polyolefin, not producing EPDM-polyolefin copolymer, as argued by Applicant.

2) **Carfagnini** discloses a process for producing a plastomer-elastomer compositions from polyolefins and EPDM, and plastomer-elastomer compositions obtained with such process. Cross-linking of EPDM elastomeric phase occurs either wholly or in part by thermodynamic vulcanizing methods by non-halogenated phenolic resin used in conjunction with an aromatic carboxylic acid, such as salicylic acid, cross-linking agents (Abstract), which process is identical to that claimed in the instant invention. **Carfagnini** further discloses addition of fillers such as carbonates (p. 4, lines 20-22).

Though **Carfagnini** does not specify the carbonate filler as calcium carbonate and the amount of added filler and adding the filler until the composition shows a total specific gravity of 2 kg/dm3 and hardness of Shore A 40 to Shore D 50; nevertheless **Credali et al** discloses a composition comprises 8-25% by weight of propylene polymer or copolymer, i.e. a polyolefin plastic phase; 75-92% by weight of elastomeric fraction comprising copolymer of ethylene, propylene and conjugated or non-conjugated diene (p.3, lines 22-27), i.e. EPDM elastomeric phase; and further 40-80% by weight of inorganic filler (Abstract; page 3, lines 28-29), including calcium carbonate (p. 11, lines 3-4), to make the composition having Shore A hardness of lower than 85 (p. 3, lines 29-31; p. 11, lines 15-16). Even containing 40-80%wt of inorganic filler, the composition of **Credali et al** comprises high elongation at break (higher than 400%), tensile strength of higher than 4 MPa, but also good flame-retardancy (p. 3, lines 29-31 ; p. 11, lines 11-29). Further, **Credali et al** clearly states that highly filled compositions are capable of incorporating large amounts of fillers at the same time **retaining the physical and mechanical properties** of unfilled compositions (p. 11, lines 11-13 ; p. 3, lines 7-9). Thus, it would have been obvious to a skilled artisan that compositions comprising EPDM and polyolefin are capable of being highly filled to improve falme-retardancy but at the same time retain good physical and mechanical properties. **Yamanaka** also discloses a composition comprising EPDM rubber ([0021]) and polyethylene/polypropylene plastic phase (Abstract). Thus, all of **Carfagnini, Credali et al** and **Yamanaka** disclose compositions comprising EPDM elastomer and polyolefin plastic phase. Therefore, it would have been obvious to a skilled artisan to combine the

teachings of **Carfagnini, Credali et al** and **Yamanaka,** i.e. include large amounts of inorganic filler, including calcium carbonate, into the composition of **Carfagnini** so that the composition of **Carfagnini** will be highly filled to improve flame-retadancy but also retaining the physical and mechanical properties of unfilled compositions (see p. 11, lines 11-13 of **Credali et al**). The specific amount of used inorganic filler depends on the desired combination of physico-mechanical properties and flame-retardancy, it would have been obvious to a one skilled in the art at the time of the invention was made, to make variations in the amount of the added filler to reach the desired combination of flame-retardancy, hardness and elasticity of the final composition. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (MPEP 2144.05 II).

2) Since the composition of **Carfagnini** in view of **Credali** and **Yamanaka** and method for its production are identical to those claimed in the instant invention, therefore, the composition of **Carfagnini** in view of **Credali** and **Yamanaka** will intrinsically have such properties as recyclability and nontoxicity. "Products of identical chemical composition can not have mutually exclusive properties" (See MPEP 2112.01). Furthermore, since the composition of **Carfagnini** in view of **Credali** and **Yamanaka** specifically recites the use of non-halogenated phenolic resin as a cross-linking agent, therefore, it would have been obvious to a skilled artisan that chlorine will not be produced since the composition does not contain chlorine derivatives at all. Further, the composition does not comprise compounds containing heavy metals, therefore, heavy metals will not be produced as well.

15. Regarding the rejection of claims 8, 10, 13 under 35 U.S.C. 103(a) as being unpatentable over **Carfagnini** (EP 230,212) in view of **Credali** (WO 2004/026957), **Yamanaka** (US 2003/0013820) in further view of "Hawley's Condensed Chemical Dictionary", 14th Edition, 2002, by John Wiley & Sons Inc, Applicant argues that a) the references cited by the Examiner do not establish that the same kind and the same amount of inorganic filler for either polyolefins or EPDM could also be used in producing EPDM-polyolefin copolymers; the references are silent as to using inorganic fillers in preparing EPDM-polyolefin copolymers.

16. Examiner disagrees.

1) As stated above, the instant application does not disclose production of EPDM-polyolefin copolymers. Further, as discussed above, all of **Carfagnini, Credali** and **Yamanaka** disclose identical compositions comprising EPDM elastomer (or rubber) and polyolefin plastic phase, further containing inorganic filler, specifically calcium carbonate. Thus, all of the compositions of **Carfagnini, Credali** and **Yamanaka** are analogous art. Therefore, it would have been obvious to a one of ordinary skill in the art at the time of the invention was made to use commercially available calcium carbonate with specific gravity 2.71 g/cc, aluminum hydroxide with specific gravity 2.42 g/cc, barium sulfate with specific gravity 4.48 g/cc in the composition and process of **Carfagnini** in view of **Credali** and **Yamanaka** as it would have been obvious to substitute one equivalent for another used for the same purposes. Case law holds that the selection of a known material based on its suitability for its intended use supports

prima facie obviousness. Sinclair & Carroll Co vs. Interchemical Corp., 325 US 327, 65 USPQ 297 (1045). Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See In re Ruff 118 USPQ 343 (CCPA 1958).

17. Regarding the rejection of claims 2-4, 6-19 under 35 U.S.C. 103(a) as being unpatentable over **Carfagnini** (EP 230,212) in view of **Credali** (WO 2004/026957) and **Sullivan et al** (US 2004/0209707), applicant argues that:

a) there is no reason to combine the cited references since mineral fillers are known in the art to negatively influence the physical-mechanical properties of elastomer, causing lower elongation, lower tensile strength, and higher brittleness;

b) **Credali** discloses addition of mineral fillers to polyolefins, but present invention comprises an additional component, namely EPDM-terpolymer-polyolefin copolymer;

b) the cited references do not teach the recyclable and nontoxic composition that does not produce chlorine or dust or heavy metals.

18. Examiner disagrees.

1) The full discussion with respect to **Credali** set forth in paragraph 14 above is incorporated here by reference. Specifically, it is noted that **Credali** teaches incorporation of high amounts of inorganic filler to compositions comprising crystalline

polyolefin fraction (P. 3, lines 14-21) and EPDM elastomeric fraction (P.3, lines 22-27) without loosing their physical-mechanical properties (p. 3, lines 7-9).

2) Since the composition of **Carfagnini** in view of **Credali** and **Sullivan et al** and method for its production are identical to those claimed in the instant invention, therefore, the composition of **Carfagnini** in view of **Credali** and **Sullivan et al** will intrinsically have such properties as recyclability and nontoxicity. "Products of identical chemical composition can not have mutually exclusive properties" (See MPEP 2112.01). Furthermore, since the composition of **Carfagnini** in view of **Credali** and **Sullivan et al** specifically recites the use of non-halogenated phenolic resin as a cross-linking agent, therefore, it would have been obvious to a skilled artisan that chlorine will not be produced since the composition does not contain chlorine derivatives at all. Further, the composition does not comprise compounds containing heavy metals, therefore, heavy metals will not be produced as well.

19. Regarding the rejection of claims 10, 13 under 35 U.S.C. 103(a) as being unpatentable over **Carfagnini** (EP 230,212) in view of **Credali** (WO 2004/026957) and **Sullivan et al** (US 2004/0209707), in further view of "Hawley's Condensed Chemical Dictionary", 14th Edition, 2002, by John Wiley & Sons Inc, Applicant argues that

a) the references cited by the Examiner do not establish that the same kind and the same amount of inorganic filler for either polyolefins or EPDM could also be used in producing EPDM-polyolefin copolymers; the references are silent as to using inorganic fillers in preparing EPDM-polyolefin copolymers.

20. Examiner disagrees.

1) As stated above, the instant application does not disclose production of EPDM-polyolefin copolymers. Further, all of **Carfagnini, Credali** and **Sullivan et al** disclose identical compositions comprising EPDM elastomer (or rubber) and polyolefin plastic phase, further containing inorganic filler, specifically calcium carbonate. Thus, all of the compositions of **Carfagnini, Credali** and **Sullivan et al** are analogous art. Therefore, it would have been obvious to a one of ordinary skill in the art at the time of the invention was made to use commercially available calcium carbonate with specific gravity 2.71 g/cc, aluminum hydroxide with specific gravity 2.42 g/cc, barium sulfate with specific gravity 4.48 g/cc in the composition and process of **Carfagnini** in view of **Credali** and **Sullivan et al** as it would have been obvious to substitute one equivalent for another used for the same purposes. Case law holds that the selection of a known material based on its suitability for its intended use supports prima facie obviousness. Sinclair & Carroll Co vs. Interchemical Corp., 325 US 327, 65 USPQ 297 (1045). Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See In re Ruff 118 USPQ 343 (CCPA 1958).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina Krylova whose telephone number is (571)270-7349. The examiner can normally be reached on Monday-Friday 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Irina Krylova/
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796